

Newsletter article #9

Beyond cover, living roots offer much more

While it's easy to see the importance of giving the soil protection above the ground, it's not always as easy to recognize benefits living covers provide below the surface.

Through their roots, living plants offer soil microbes their easiest, most reliable food source. Because these soil microbes need a consistent food source throughout the year to thrive, cropping plans that include crop rotations with cover crops throughout the growing season (or perennial grasses and legumes) can help sustain them year-round.

Every soil organism has something it eats...and something that eats it. Each organism and each bit of plant residue is important to the complex food web under the soil surface. While each source of microbial food is important to a balanced food web in a healthy soil, there is no better food for soil microbes than the sugars exuded by living roots.

Living plants maintain a rhizosphere, an area of concentrated microbial activity close to the root. The rhizosphere is the most active part of the soil biology because it is where the most easy-to-eat food is available for microbes. It's also critical for plant growth and health, because those microbes, in turn, provide essential nutrient cycling for crops.

Because living roots provide the easiest source of food for soil microbes, growing perennial crops or long-season cover crops is the key to feeding the foundational species of the soil food web—so they'll be healthy and ready to perform throughout the primary growing season.

To learn more about soil health, and to meet some of the farmers who are "Unlocking the Secrets in the Soil," visit www.nrcs.usda.gov.

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